

Remarks/Arguments

The present amendment is made in response to the Office Action dated December 19, 2003 and identified as Paper No. 20031210. Claims 1 and 3-6 are pending in the application.

In the Action, the Examiner identified a restriction requirement under 35 U.S.C. § 121 and Applicant's subsequent election of claim 1-6. Claims 1 and 3 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 4,824,177 to Aloy ("*Aloy*") in view of U.S. Patent No. 4,658,876 to Augier ("*Augier*"). Claims 2, 4, and 5 were rejected under 35 U.S.C. § 103(a) as unpatentable over *Aloy* and *Augier*, in further view of EP 0798140 to Wong ("*Wong*") or WO 96/05048 to Dowel ("*Dowel*"). Claim 6 was rejected under 35 U.S.C. § 103(a) as unpatentable over *Aloy*, *Augier*, *Wond*, and *Dowel*, in further view of U.S. Patent No. 6,319,969 to Walther ("*Walther*").

With regard to the restriction requirement, Applicant has affirms the election of claim 1-6.

With regard to the rejection of claims 1 and 3, claim 1 has been extensively revised to include limitations from dependent claim 2 that more fully recite the composition of the claimed sealing compound. In particular, claim 1 now calls for the sealing compound to comprise about 3 parts by volume liquid latex; about 7 parts by volume water; and about 6 parts by volume propylene glycol.

The combination set forth in claim 1 is not obvious in lieu of the cited prior art. *Aloy* discloses a tubeless rim employing an elastic band and protective discs over each spoke hole and identifies that a sealing engagement between the tire and rim is preferred. Although *Augier* discloses that sealant disposed in the tire chamber is useful for improving the sealing of the spoke holes, the reference does not motivate the use of the sealing material set forth in claim 1.

Rather than including a sealant for simply sealing the rim and tire beads, the present invention is directed to a sealant that is also capable of sealing the tire in the event of damage to the tire, which now lacks the added protection of an inner tube.

The remaining references cited by the Examiner do not disclose all of the limitations of the sealing compound set forth in claim 1, and thus do not form a proper rejection under 35 U.S.C. § 103, even if *Augier* is sufficient to motivate the inclusion of a flat preventative sealant in the tire disclosed in *Aloy*. In particular, the sealant used in combination with the claimed tubeless system includes about 3 parts by volume liquid latex; about 7 parts by volume water; and about 6 parts by volume propylene glycol. As the sealant of the present invention must compensate for the fact that the tubeless tires no longer have the added protection of an inner tube and must therefore rely on the integrity of the tire itself, a different kind of sealant was required than those discussed in the prior art for preventing slow leaks.

Wong and *Dowel*, either singly or in combination, do not disclose the sealant set forth in the claimed invention. *Wong* discloses a sealant comprising 6-60% water, 36-94% ethylene glycol, 3% styrene latex, and 3-6% of polyethylene powder and ground rubber. *Dowel* discloses a sealant comprising 3% latex, up to 20% of a water misable, polar alcohol, up to 5% of two or more polyuronites, up to 1.5% PVA polymer, and 3% lecithin or linseed oil. By contrast, the claimed composition includes about 3 parts latex (approx. 18%), 7 parts water (approx. 43%), 6 parts propylene glycol (approx. 37%), and, as set forth in dependant claim 4, about .25 parts aggregate (approx. 1.5%). This claimed combination is a stark departure from the composition of the sealing compounds disclosed in the prior art.

The sealant included in the system of the claimed invention was indeed the product of unexpected results and, additionally, has met with significant second conditions that are

probative of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966).

As held by the Federal Circuit, evidence of unexpected results, commercial success, long-felt but unsolved needs, failure of others, skepticism of experts, and other related evidence must be considered in determining the issue of obviousness. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538, 218 U.S.P.Q. 871, 879 (Fed. Cir. 1983). None of the cited references suggest or even contemplate these ingredients in the claimed proportions, nor do they suggest a compound which can in fact achieve the results of the present invention. Tires retrofitted according to the claimed system can withstand numerous tire punctures, awl stabbings, and the like, due to the rapid and successful sealing of the tire wall by the claimed sealant.

As set forth in the Declaration of Stanley Koziatek ("Koziatek Declaration") submitted herewith, Applicant's claimed system has remarkable sealing capabilities and otherwise unexpected protection against tire punctures. Prior art sealants are generally effective for curing a single puncture in a tubeless tire in order to bide enough time for an automobile driver to safely reach help or for improving the quality of the tire bead seal. Non-tubeless tires, however, are extremely porous and prone to punctures. *See* Koziatek Declaration, ¶ 3. As a result, the sealant of the present invention was designed to operate differently than prior art tire sealants and required a combination of element that would seal punctures in a tire tread or sidewall rapidly and as permanently as possible to avoid the need for mid-race tire changes. *Id.* Indeed, tires retrofitting according to the present damage can withstand unparalleled levels of damage. *See* Koziatek Declaration, ¶ 5.

Due in part to the striking results achieved by the present invention, trade magazines, bicycle companies, and racing professionals praise, use, and recommend the present invention in connection with tubeless tires and racing mountain bikes. *See, generally*, Koziatek Declaration,

¶¶ 6-8. Indeed, one magazine has dubbed the present invention the number two innovation in mountain biking technology in the last millennium, and has reported that the present invention “is exactly what was missing from the tubeless tire market” and saved the tubeless market from “its fall from grace.” *See* Koziatek Declaration, ¶ 6. Thus, the present invention has thus fulfilled a long-felt need in the tubeless tire industry. *In re Cavanagh*, 436 F.2d 491, 168 USPQ 466 (CCPA 1971).

Hall of Fame professionals such as Richard “R.C” Cunningham repeatedly recommend the present invention to enthusiasts that write to him for advice. *See* Koziatek Declaration, ¶ 7. Other professionals, such as multiple-champion mountain bike racers, and professional bike evaluators use the present invention in their bikes. *See* Koziatek Declaration, ¶ 8. Indeed one World Champion racing professional credited the present invention as a contributor to her success in winning a race where her tires suffered damage that the present invention immediately repaired. *See* Koziatek Declaration, ¶ 9.

As the objective evidence attached to the Koziatek Declaration indicates, the claimed invention has met with outstanding commercial success, rave critical review, and industry-wide acceptance among professionals that depend on tire integrity for winning performances. Most, if not all, of this acclaim is due to the entirely unexpected results achieved through the non-obvious combination of elements in the sealant of the present invention that cooperate with the tubeless system to insure both basic sealing and the puncture proof characteristics required by a tubeless bicycle system. As a result, the present invention would not have been obvious to one of ordinary skill in the art at the time the present invention was made.


Enclosed herewith is a Change of Correspondence Address form.

Reply to Office Action dated December 19, 2003
Application Serial No. 10/055,198
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In view of the foregoing amendments as supported by these remarks, the Examiner's reconsideration is requested and allowance of the present application is believed to be in order. If the Examiner believes a phone conference with Applicant's attorney would expedite prosecution of this application, he is respectfully requested to contact him at (315) 218-8515.

Respectfully submitted,

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By: 
George R. McGuire
Reg. No. 36,603

BOND, SCHOENECK & KING, PLLC
One Lincoln Center
Syracuse, New York 13202-8530
(315)218-8515